

Case 3618***Kalophrynus* Tschudi, 1838 (Amphibia Anura, MICROHYLIDAE):
proposed conservation by designation of a neotype for its type species
Kalophrynus pleurostigma Tschudi, 1838**

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Abstract. The purpose of this application, under Article 75.5 of the Code, is to conserve the usage of the genus *Kalophrynus* Tschudi, 1838, as defined by its type species *Kalophrynus pleurostigma* Tschudi, 1838, for the sticky frogs of Sumatra, Indonesia. The current paradigm of the genus *Kalophrynus* is threatened by the poor condition of the holotype of *K. pleurostigma*. In order to properly root the genus to a type specimen, the assignment of a neotype for the species is proposed, which will safeguard the prevailing usage of the genus *Kalophrynus*.

Keywords. Nomenclature; taxonomy; Amphibia; Anura; MICROHYLIDAE; KALOPHRYNINAE *Kalophrynus*; *Kalophrynus pleurostigma*; sticky frogs; Sumatra; Southeast Asia; Greater Sunda Islands; Philippines.

1. Tschudi (1838, pp. 48, 86) recognized the uniqueness of the sticky frogs with the erection of a new genus, *Kalophrynus*. Simultaneously, he described *Kalophrynus pleurostigma* from a single specimen derived from Sumatra, one of the Greater Sunda Islands of present-day Indonesia, thereby establishing this taxon as the type species of *Kalophrynus*.

2. The Sumatran origin has not been questioned, although few Sumatran specimens are available to allow a thorough examination of variation of topotypic *K. pleurostigma* in the broadest sense of all Sumatran populations. Owing to the near absence of specimens of Sumatran *K. pleurostigma*, the characterization of *K. pleurostigma* has been based largely on the morphology of specimens from Thailand and Peninsular Malaysia.

3. Since its first description, the *K. pleurostigma* paradigm has expanded slowly to include populations from Southeast Asia, southwestern China, the Greater Sunda Islands, and the Philippine Islands. In part due to its widespread occurrence, the taxonomy of the species *K. pleurostigma* as well as the definition of species boundaries in the genus *Kalophrynus* are still being worked out. During the past two decades, systematists have recognized that multiple species are hidden under the name *K. pleurostigma*. This has already resulted in the description of new species

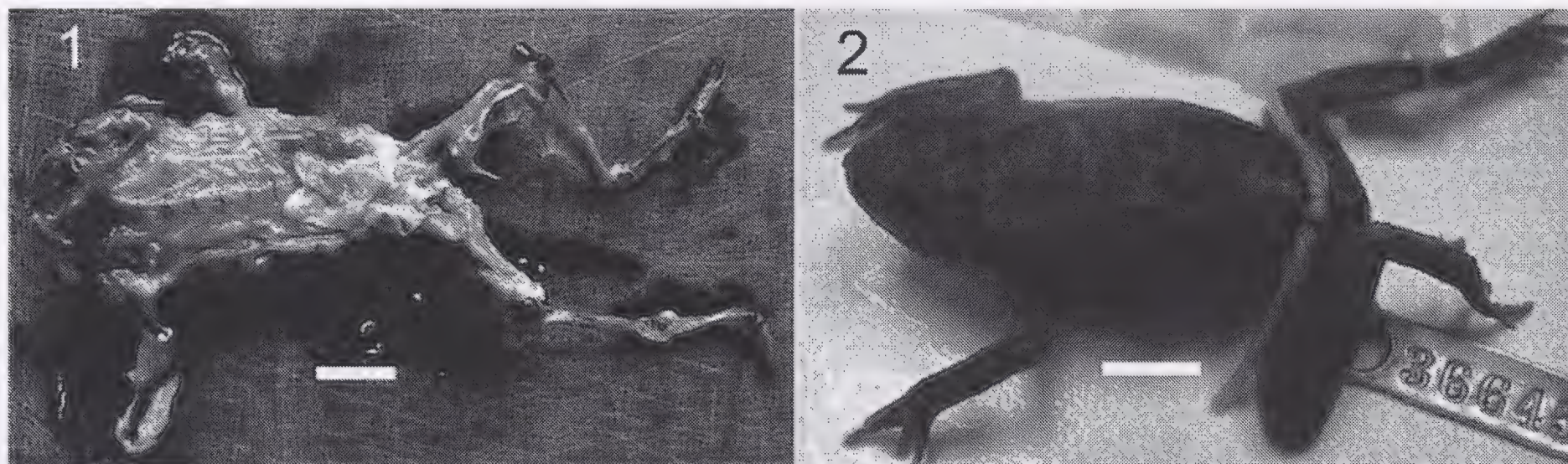


Figure 1. (1) holotype of *Kalophrynus pleurostigma*, RMNH 2279; (2) neotype of *Kalophrynus pleurostigma*, USNM 36645. Scale bar = 5 mm.

(*Kalophrynus orangensis* Dutta, Ahmed & Das, 2000; Assam, India) and some earlier synonyms have been proposed for resurrection (e.g. *Calophrynus pleurostigma* var. *sinensis* Peters, 1867, for Philippine populations; Ohler & Grosjean, 2005). However, no one has examined the type specimen in this context to define/describe the characteristics of the Sumatran population, *K. pleurostigma* sensu stricto.

4. Recent examination of the holotype (specimen 2279 in the Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands [now renamed 'Naturalis'; RMNH]) of *Kalophrynus pleurostigma* to study the physical evidence for the characterization of the genus *Kalophrynus* revealed that the specimen is a badly decomposed, nearly fleshless skeleton (Fig. 1). Gassó Miracle et al. (2007, p. 47) reported that the specimen was 'in very poor condition, [...] dried out and therefore fragile'. It appears that an attempt at rehydration failed and allowed further decay.

5. Because of the physical deterioration of the currently recognized type specimen (RMNH 2279) it is no longer possible to determine unequivocally that the specimen represents *Kalophrynus pleurostigma*, thereby threatening the stability and universality of the genus *Kalophrynus* as well as the species *K. pleurostigma*. In this paper we propose a neotype allowing unambiguous identification and consistent with the original description and prevailing usage. The proposed neotype is specimen USNM 36645, an adult female (34.5 mm SVL) from 'Aru Bay, East Sumatra' (approx. 98°15'E 4°10'N, Sumatera Utar province) collected by Dr. W.L. Abbott on 9 December 1905; well preserved, slightly darkened and colour pattern faint.

6. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all previous type fixations for the nominal species *Kalophrynus pleurostigma* Tschudi, 1838 and to designate specimen 36645 in the National Museum of Natural History, Smithsonian Institution, Washington, DC, U.S.A. (USNM), as the neotype;
- (2) to place on the Official List of Generic Names in Zoology the name *Kalophrynus* Tschudi, 1838 (gender: masculine), type species by monotypy *Kalophrynus pleurostigma* Tschudi, 1838;
- (3) to place on the Official List of Specific Names in Zoology the name *pleurostigma* Tschudi (the specific name of the type species of *Kalophrynus* Tschudi, 1838), as published in the binomen *Kalophrynus pleurostigma* and as defined by the neotype designated in (1) above.

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References

- Boulenger, G.A.** 1882. *Catalogue of the Batrachia Salientia s. Ecaudata in the Collection of the British Museum, Second Edition*. xvi, 256 pp., 16 pls. Taylor & Francis, London, U.K.
- Dutta, S.K., Ahmed, M.F. & Das, I.** 2000. *Kalophrynus* (Anura: Microhylidae), a new genus for India, with the description of a new species, *Kalophrynus orangensis*, from Assam State. *Hamadryad*, **25**: 67–74.
- Gassó Miracle, M.E., van den Hoek Ostende, L.W. Arntzen, J.W.** 2007. Type specimens of amphibians in the National Museum of Natural History, Leiden, The Netherlands. *Zootaxa*, **1482**: 25–68.
- Ohler, A. & Grosjean, S.** 2005. Color pattern and call variation in *Kalophrynus* from south-east Asia. *Herpetofauna*, **18**(3/4): 99–106.
- Parker, H.W.** 1934. *A monograph of the frogs of the family Microhylidae*. vii, 208 pp. The Trustees of the British Museum, London, United Kingdom.
- Peters, W.** 1867. Herpetologische Notizen. *Monatsberichte der Königlichen Preussischen Akademie der Wissenschaften zu Berlin*, **1867**: 13–37.
- Tschudi, J.J.** 1838. *Classification der Batrachier, mit Berücksichtigung der Fossilen Thiere dieser Abtheilung der Reptilien*. 99 pp. Buchdruckerei von Petitpierre, Neuchâtel, Switzerland.

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